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COMMONWEALTH OF MASSACHUSETTS
SPECIAL COMMISSION ON THE CHARLES RIVER BASIN

REPORT
ON
PROPOSED IMPROVEMENTS
OF THE CHARLES RIVER BASIN

Submitted in Accordance with Chapter 16
of the Resolves of the Legislature of 1928

COMMISSIONERS

HENRY I. HARRIMAN, Chairman
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GEORGE OWEN

January 2, 1929

PUBLICATION OF THIS DOCUMENT APPROVED BY THE COMMISSION ON ADMINISTRATION AND FINANCE

REPORT OF COMMISSION.

BOSTON, MASSACHUSETTS, January 2, 1929.

To the Honorable Senate and House of Representatives in General Court assembled.

GENTLEMEN:— The Legislature of 1928 passed the following resolve creating a special commission of five members to “investigate means and methods of making the Charles River basin more safe, suitable, and attractive for recreation and civic welfare purposes.”

CHAPTER 16

RESOLVE PROVIDING FOR AN INVESTIGATION BY A SPECIAL COMMISSION OF MEANS AND METHODS OF MAKING THE CHARLES RIVER BASIN MORE SAFE, SUITABLE AND ATTRACTIVE FOR RECREATION.

Resolved, That an unpaid special commission is hereby established, to consist of the chairman of the division of metropolitan planning and four other persons to be appointed by the governor. Said commission shall investigate means and methods of making the Charles River basin more safe, suitable and attractive for recreation and civic welfare purposes, and shall consider what means and methods of accomplishing said object are, in its opinion, best and most feasible. Said commission shall hold hearings and may call upon the various departments, commissions and officers of the commonwealth and of the cities and towns in which said basin and the Charles river and its tributaries are situated for such information as may be of assistance in the course of its investigation. Said commission may expend for expert, clerical and other services and expenses such sum, not exceeding in the aggregate three thousand dollars, as may hereafter be appropriated, and such sum shall be assessed on the cities and towns of the metropolitan parks district as a part of the cost of maintenance of the Charles River basin. Said commission shall report to the general court its findings and recommendations in full, together with plans and estimates and drafts of legislation necessary to give effect to its recommendations, by filing the same with the clerk of the house of representatives not later than December first of the current year. [Approved April 10, 1928.

The Commission as appointed by the Governor is constituted as follows: Henry I. Harriman, chairman; Henry Parkman, Jr.; James W. Rollins; Arthur A. Shurtleff; and George Owen.

The Commission has held a public hearing which was largely attended, and has had many conferences with persons interested in the development of the river. It has also had the assistance of the Division of Metropolitan Planning in its general engineering studies, of the Department of Public Health in analyzing the water and making studies as to its suitability for bathing purposes, and the plans and records of the Metropolitan District Commission.

In its consideration of the improvements to the Charles River Basin, the Commission necessarily had to interpret the scope and intent of the resolve under which it is acting. The language of the resolve is as follows:

Resolved, That an unpaid special commission is hereby established to consist of the chairman of the division of metropolitan planning and four other persons appointed by the governor. Said commission shall investigate means and methods of making the Charles River basin more safe, suitable and attractive for recreation and civic welfare purposes, and shall consider what means and methods of accomplishing said object are, in its opinion, best and most feasible.

The Commission considers that the term “basin” includes the Charles River and its banks between the Charles River Dam and the dam at Watertown, which were the limits of the basin that was improved under the provisions of the act of 1903. At the Watertown bridge there now exists a small power dam, and the effect of the tide ceased at that point. The Commission has therefore limited its consideration to the portion of the Charles River Valley lying between the dam and Watertown Square.

As the resolve was originally introduced in the Legislature the scope of the Commission was limited to “means and methods of making the Charles River Basin more safe, suitable and attractive for recreation.” During the passage of the act the words “and civic welfare purposes” were added, obviously broadening the scope of the original resolve. The Commission interprets the words “civic welfare purposes” to include the maximum development of the basin, not only for recreation but for park, parkway and street purposes, and has included in its report provision for the construction of certain important parkway sections and street improvements.

As a preliminary to its studies, the Commission compiled an accurate map of the Charles River Basin from the dam to Watertown Square, with a definite record of all work now done and all property now owned by the Commonwealth.

General History of the Basin and Scope of the Present Inquiry

Prior to the construction of the Charles River Basin, the Charles River as far as Watertown Square was a tidal stream, the water at high tide rising substantially above its present elevation at grade 8 and at low water leaving exposed large and ugly flats.

Largely as the result of the efforts of Mr. James J. Storrow, a special commission, consisting of Henry S. Pritchett, Samuel M. Mansfield and Richard H. Dana, was appointed, under the provisions of chapter 105 of the Acts of 1901, to study the improvement of the lower Charles River. John R. Freeman, one of the most eminent hydraulic engineers in the country, was its chief engineer, and its report, rendered in 1903, is one of the clearest and most convincing statements that has ever been presented to the Massachusetts Legislature. As a result of this report, the Legislature, by chapter 465 of the Acts of 1903, authorized the improvement of the Charles River by the construction of a dam near the old Craigie bridge for the purpose of maintaining the waters of the river at a constant level of approximately grade 8, and the improvement and beautification of the banks of the basin thus created. The special commission created to carry out the work consisted of Henry S. Pritchett, chairman, Henry D. Yerxa, and



*Craigie Bridge in 1904
Site of the Present Charles River Dam*

Joshua B. Holden. The work was carried out with skill and economy, and the special commission in 1910 turned over the basin in an approximately completed condition to the Metropolitan District Commission. The cost of the work carried out by the special commission was approximately \$4,000,000. Since 1910 some additional expenditures have been made, and the cost of the basin is now approximately \$4,750,000. This figure does not, however, include the cost of reconstructing the old pile bridges which formerly crossed the river.

The work of the original commission included the building of the dam, the construction of marginal conduits on both sides of the river so that sewage and storm water would not enter the basin, and the construction of the esplanade on the Boston side of the basin. Later, the city of Cambridge constructed the Memorial Drive on its side of the basin, and this was subsequently turned over to the Metropolitan District Commission for care and maintenance.

Bridges

There are numerous bridges across the Charles River. The old Craigie bridge was replaced by the roadway on the dam. The old West Boston bridge was reconstructed in 1907 as a beautiful granite and steel structure, and is now known as the Longfellow bridge. It now carries two roadways and the tracks of the Cambridge subway. Harvard bridge, originally built in 1891, was reconstructed in 1924, and while it is by no

means a modern or attractive structure it will undoubtedly serve its purpose for another fifteen or twenty years. A new Cottage Farm bridge has just been opened to traffic, and in connection with its reconstruction the tracks of the Grand Junction Branch of the Boston & Albany Railroad have been rebuilt and the old trestles and draw removed. New bridges of attractive design have also replaced the old pile bridges at Cambridge Street, Brighton, Western Avenue, North Harvard Street (the Larz Anderson bridge), Arsenal Street, Faneuil, and Watertown Square; and a foot bridge, the Weeks Memorial bridge, spans the river opposite the Harvard Business College.

This Commission is recommending the construction of an additional bridge at Gerry's Landing, about a half mile above the Larz Anderson bridge, to carry the new Alewife Brook-Fresh Pond Parkway across the river to a suitable connection with the parkways on the Boston side of the basin. The Commission does not believe, however, that any other bridges across the basin are required at this time. In its opinion the need is not for more bridges but for better and less congested approaches to the present bridges, thus increasing traffic capacity and safety. This matter will be discussed in more detail later in the report.

General Plan

The Commission believes that the Legislature in passing the resolve creating it placed the emphasis on the improvement of the basin (considered as a body of water, together with its banks) as a place of recreation for the people. In its studies and deliberations the Commission has held to this belief as its guiding purpose.

Dr. Charles W. Eliot, president of Harvard College, had the true vision of the Charles River Basin when he gave his testimony at the hearings held in 1901. He said:

It is my feeling that the proposed improvement of the Charles River Basin and the banks of the river is of the greatest interest to thousands of people. The principal ground for favoring the improvement of the basin has seldom been put forward. It is to increase the health and happiness of four hundred thousand people who live within an easy walk of this seven-mile park which nature has really provided.

I wonder if any member of this committee has walked of a June or an October evening along the Charlesbank and noted the thousands who use it. The sight of people gathered on the Charlesbank park on any fair evening between the first of May and the first of November would go far to convince any person, who really believes that cities exist and that commonwealths exist to promote the well-being of the people, that this great improvement of the Charles River Basin and of the banks of the Charles River is a thing fit to be done by this intelligent Commonwealth. There are, of course, objections, but these objections, after all, seem to me to be of second rank, because great modern communities do not exist ultimately for commerce, but commerce exists for them. Nor do municipalities exist for profit in money, but for the people who live in them, and the supreme object of any city should be the happiness of the community.

The Commission believes that the improvements of the basin completed in 1910 constitute only a partial step in its development towards the ideal expressed by President Eliot, and is convinced it can be made to rival the



Union Boat Club in 1904, between Mt. Vernon and Back Streets

Alster Basin at Hamburg or the Waterfront Parkway in Chicago, which are generally recognized as two of the most beautiful water parks in the world. The improvement of the Charles River Basin has three distinct aspects:

First. — The banks of the basin should be developed with parks, playgrounds and bathing beaches, promenades, wide lawns, and tree-shaded paths.

Second. — The Charles River Parkway system should be completed with uninterrupted parkways on either side of the river from the dam to Watertown Square.

Third. — The river should be made safer and more attractive for boating and water sports.

If the general plan outlined in this report is carried out, the river will be made safer for boating, its banks will be beautified and made useful to the thousands of people who live near, and the automobile traffic problem of the Metropolitan District will be greatly simplified.

Development of the Banks of the Basin

One of the most essential features of the plan proposed by this Commission is the removal of the embankment wall and the widening of the esplanade on the Boston side of the Charles River from the dam to Charlesgate West, and the extension of this park particularly to the Cottage Farm bridge. The filling for this work will be secured from the bed of the river

by hydraulic dredges, as in the case of the present embankment. The fill thus created will be loamed, planted with shrubbery and trees and provided with ample walks, and will result in a most beautiful water park with sloping edges and a pebble beach, its width being from 300 to 400 feet as far as Charlesgate West, and of somewhat lesser width from that point to the Cottage Farm bridge. There is a general unanimity of opinion that it is desirable to do away with the formal rigid straight line of the present embankment, and accordingly the plan of the Commission provides for a beach with a slightly irregular line.

Playgrounds and Bathing Beaches

Between the dam and the Longfellow bridge this new park area should be entirely devoted to the enlargement of the Charlesbank Playground for the use of the inhabitants of the North and West Ends. The present playground and park belonging to the city of Boston has an area of approximately 9%₁₀ acres, and the new fill will increase its size to 15%₁₀ acres, after allowing for the proper widening of Charles Street.

The Commission assumes that this playground may contain, among other things, a large wading beach, a swimming pool and suitable bath houses.

Bathing beaches and playgrounds can also be established at several locations along the basin between Boston and Watertown, and the Metropolitan District Commission should be given authority to grant the necessary permits. Cambridge has expressed a desire for a large playground



Memorial Drive, Cambridge, near Longfellow Bridge, 1904



Charles River Basin, Massachusetts Institute of Technology, Cambridge, 1928

between the Cottage Farm bridge and the Magazine Street bath house. The location is admirable, and this Commission recommends its development.

The Commission has conferred with the Department of Public Health regarding the suitability of the water of the Charles River for bathing purposes. Under Dr. Bigelow's supervision tests of the water of the river were made at six separate places, and these analyses show there is some pollution in the water, and that it is not ideal for bathing. Some sewage is now carried into the river at times of storm, the marginal conduits not

being of sufficient area to carry the maximum discharge. On the other hand, his report shows that at none of the bathing beaches around Boston is the water ideal. There is some pollution in all of these waters, and it is a difficult matter to determine just where the line should be drawn between water that is actually harmful or harmless. There has been bathing for years at the Magazine Street beach on the Charles River and no disease has been traced to it. The same may be said of many other bathing beaches in the metropolitan area, and it may well be that the advantages of bathing in the summer season outweigh the slight possibility

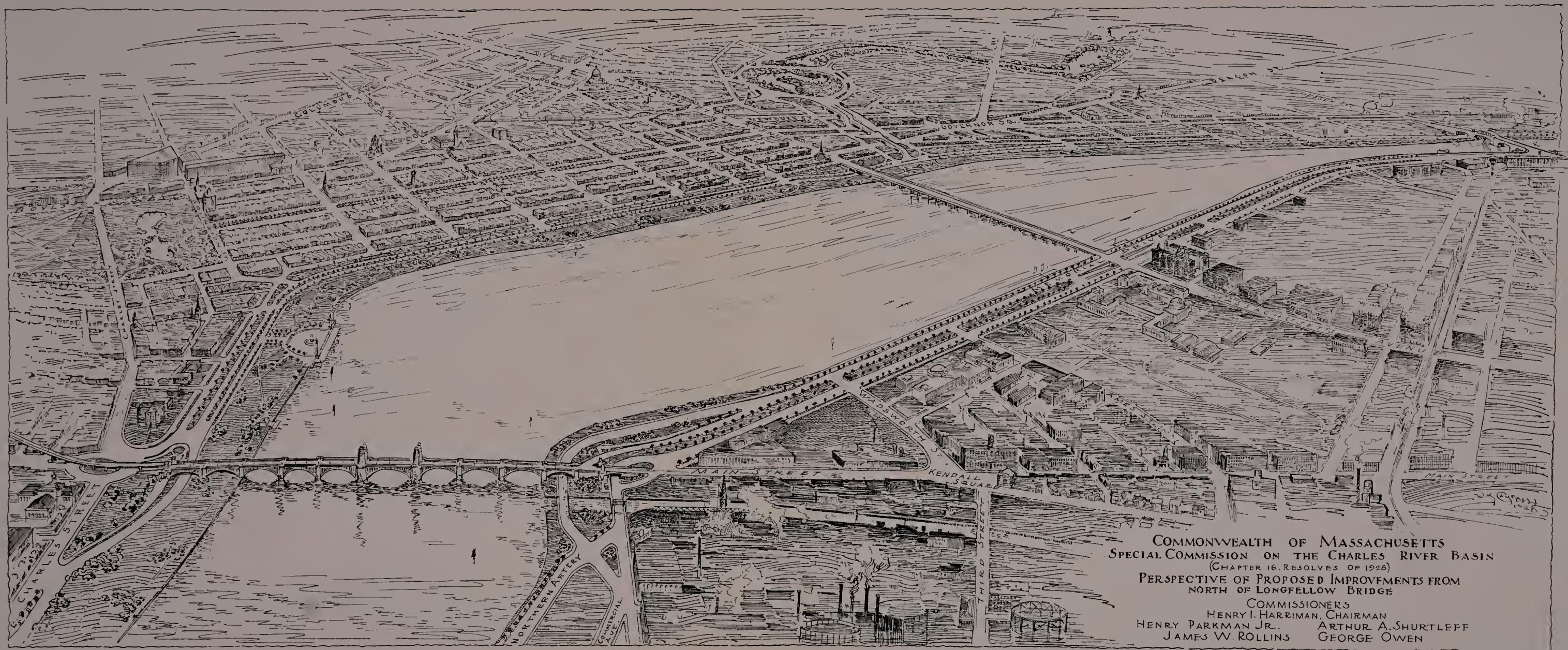


Lower End of Charles River Basin, showing Longfellow Bridge, the Northern Artery and the Dam, 1928

of disease. We think each city or town along the river desiring to establish a bathing beach should determine, through its own authorities, whether in its judgment the water is suitable for bathing purposes.

Formal Landing and Plaza

The plans of the Commission include the construction, at a suitable place on the lower embankment, of a formal landing for boats, and a formal decorative plaza with terraces and fountain where people can congregate and outdoor concerts of high-grade music can be given during the summer season.





Inner Alster Basin, Hamburg, showing Boat Landing and Pavilions, 1928

Parkways

The Commission of which Dr. Pritchett was chairman, and which made the original studies for the Charles River Basin, planned a parkway on either side of the basin from the dam to Watertown Square. If such parkways were needed in 1901, how much more are they needed now that the automobile has come into universal use.

The original plans for continuous parkways on both sides of the river have never been carried out in full, and there are now three missing links on the Boston side and one on the Cambridge side. These missing parkway sections are, first, on the Boston side, between the Longfellow bridge and the Cottage Farm bridge; second, on the Boston side, between the Arsenal Street bridge and the Faneuil bridge; third, on the Newton side, between the end of the present parkway at Maple Street in Newton and the westerly

Newton-Watertown line; fourth, on the Cambridge side, between the end of Memorial Drive and the Arsenal Street bridge; and fifth, a connection between the Fresh Pond Parkway at Mount Auburn Street, Cambridge, and the Soldiers Field Parkway, including a bridge across the river at Gerry's Landing.

We recommend the construction of all of these missing links except No. 4, that section of parkway being omitted for the present because of contiguous and reasonably parallel streets which can care for the traffic. We also recommend the construction of an underpass carrying Memorial Drive under Massachusetts Avenue, Cambridge, and the construction of an overpass connecting Commonwealth Avenue at the corner of St. Paul Street with the parkway along the river. The underpass will greatly expedite traffic on both Memorial Drive and Massachusetts Avenue, and the



Bridge between Inner and Outer Alster Basins, Hamburg, showing Bathing Pavilion and Boat Houses, 1928

overpass will enable traffic to move from Commonwealth Avenue to the parkway avoiding the congested centers at the end of the Cottage Farm bridge and at Governor Square.

The Boston Park Commission plans an overpass extending from the Fenway across Commonwealth Avenue and Beacon Street between Charlesgate East and Charlesgate West to the river parkway. This plan is splendidly conceived and will greatly assist in the movement of traffic in and out over the Jamaica Plain Parkway.

Undoubtedly the most needed of the missing links is the first section extending from the Longfellow bridge to the Cottage Farm bridge on the Boston side. It is recommended that a double parkway be constructed at this location, the parkway being placed outside of the limits of the present esplanade on the new fill, and distant nearly 160 feet from the rear of the



*Lower End of Mt. Vernon Street, 1904
Before Construction of the Boston Embankment*

houses on Beacon Street. With adequate automatic regulation of traffic by signals it will serve the double purpose of providing a beautiful water drive, of relieving serious congestion on Beacon Street, Commonwealth Avenue and in the Back Bay generally, and of greatly reducing the number of accidents by placing traffic where there are few intersections. In the opinion of the Commission it will take from 50 to 75 per cent of the traffic from Beacon Street and Bay State Road, and will greatly reduce the noise and nuisance on these two streets.

The residential streets of the Back Bay, particularly Beacon Street, are much troubled by the noise and vibration from commercial vehicles. It is a mistake to classify all types of commercial vehicles in the same category. In the State there are now approximately 100,000 such vehicles, but nearly 70,000 of them are of 1-ton capacity or less, run on pneumatic tires, and make no more noise or vibration than a pleasure automobile. The Commission considers that street regulation should distinguish between the heavy and the light commercial vehicle, and is heartily in favor of barring the heavy truck from Beacon Street and the other residential streets of the Back Bay district, forcing the relatively small number of heavy trucks to use other feasible routes to their destinations. With a large proportion of the pleasure vehicles removed from Beacon Street to the new parkway, and with heavy trucks barred from its use, conditions on this street will be infinitely improved.

Between the double parkway and the river there will be a park area with shrubbery and walks over 200 feet in width, which is more than twice the width of the present esplanade. It will border the river with a shelving beach, and will be a truly delightful spot, particularly during the summer season.

The Commission does not suggest the taking of Back Street, which is a private way owned by abutting property owners, but leaves it to the property owners to determine whether it shall be developed by them or developed by the city as a public alley or a street for local use.

It is appreciated that the construction of a roadway in the rear of Beacon Street may meet with opposition, but it is believed to be the only reasonable solution of a serious traffic problem combined with the natural and proper development of the river bank. It is inconceivable that the Charles River should be bordered by highways at all other locations, and no highway constructed in the one place where it will most relieve traffic congestion and will add much to the pleasure and safety of the thousands of people who move in and out of Boston by automobile daily.

Depression of the Proposed Parkway in the Rear of Beacon Street and Bay State Road

The Commission feels that it is entirely feasible so to depress the parkway that vehicles on it will not be visible from the main portion of the Esplanade lying between Back Street and the new drive. Such a depressed parkway would have no crossings at grade, as all crossings would be by ornamental bridges of easy access. A cross section of the new esplanade with the depressed parkway is contained in this report.

Alternate Plan for Lower Basin

The architectural firm of Perry, Shaw & Hepburn several years ago prepared a plan for the improvement of the lower Charles River Basin at a time when there was discussion of the construction of a new bridge at Massachusetts Avenue and the creation of an island at a location for a war memorial.

At the hearing which the Commission held at the State House on October 11 Mr. Shaw presented that plan for the consideration of this Commission, and while the plan as a whole is not deemed feasible at this time, at the request of the Commission the architects have worked out a modified plan for the creation of a lagoon 300 feet wide in the rear of Beacon Street, with a park and parkway constructed on the embankment which would form the northerly side of the lagoon.

This lagoon or pool would be 300 feet wide, would be relatively shallow, and would be ideal for canoeing, the sailing of small boats, skating in winter, and other sports. A pool of this character is the central feature of the landscape setting of the Lincoln Memorial in Washington, and could be made an object of great beauty. This plan would leave the present Esplanade in the rear of Beacon Street unchanged.

The new park and parkway would be on the fill which would form the

northerly boundary of the pool, and the parkway itself would be near the northerly side of the new park next to the main river, the main new park being on the southerly side of the roadway, thus making it possible for people to reach the main park without crossing the drive. There could be frequent underpasses of the new drive, and on the northerly side next to the main river an irregular-shaped park area averaging about 75 feet in width. The parkway itself should be completely fenced for the protection of the people using the park.

The objection to the plan is its somewhat greater cost, the fact that there may be difficulty in keeping the water in the pool fresh, and finally that excessive crowds would be drawn to the embankment side of the pool. The Commission recognizes that the plan has its attractive feature, but still prefers its original plan, especially with the parkway substantially depressed so as to be invisible from that portion of the Esplanade lying between Back Street and the parkway.

Widening of Charles Street

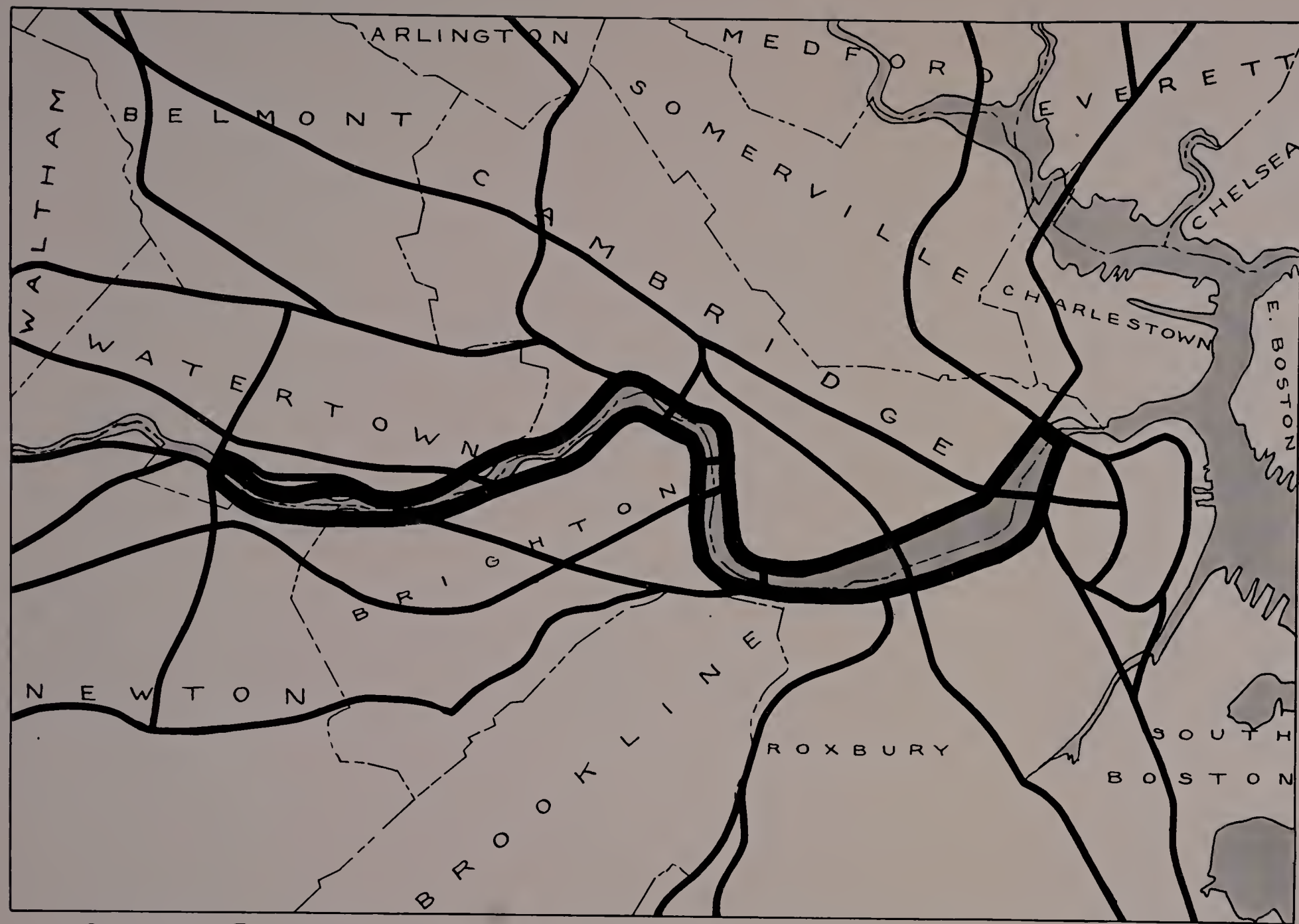
The width of Charles Street is entirely inadequate to care for the heavy traffic which now passes through it. We suggest that it be widened and made into a double roadway with a grass plot between, the width being taken from the Charlesbank Park. This widening can be made without injury to the Charlesbank because of the great increase in area due to the



*Back Street, between Berkeley and Clarendon Streets, 1904
Prior to Construction of Boston Embankment*

SCALE 0 5 10 15 20 25 30 35 Feet





CHARLES RIVER BASIN PARKWAYS IN RELATION TO MAIN THOROUGHFARES.

fill on the water side. As previously stated, the fill which the Commission proposes will increase the area of the Park by 60 per cent after allowing for the land required for the widening of Charles Street.

Circle at Cambridge and Charles Streets

The junction of Cambridge and Charles streets is a location of extreme traffic congestion. This congestion is so serious as to largely nullify the benefit arising from the widening of Cambridge Street. The Commission suggests that a 300-foot traffic circle be laid out at this intersection, and that an underpass be constructed under the Longfellow bridge from Charles Street southerly to the new parkway. We believe the circle and the underpass will solve the traffic problem at this intersection. Should it not do so, it will be feasible to construct a vehicular underpass from the new parkway to Cambridge Street, but the Commission does not recommend such construction until the circle and the underpass have been thoroughly tried out. They will be needed in any event.

The Commission is indebted to the Planning Board of the city of Boston for the design of this traffic circle.

Circle at the Boston End of the Dam

With the completion of the widening of Nashua Street now under construction the traffic tangle at the Boston end of the dam will become nearly as serious as at the end of Cambridge Street. For the solution of this traffic problem the Commission also proposes the construction of a circle in accordance with a design submitted in this report, and feels confident that this traffic circle will satisfactorily prevent traffic confusion and will secure as rapid a flow of traffic as the capacity of the near-by streets can accommodate.

Other Street Improvements in Boston

This Commission also recommends that the city of Boston extend Arlington Street to the new parkway, and that Dartmouth Street and Hereford Street be widened from Beacon Street to the parkway in accordance with plans accompanying this report.

Street Widenings on the Cambridge Side

The Commission recommends two street widenings in Cambridge, to wit: first, the widening of Wadsworth Street from Kendall Square to the river; and second, the widening of the easterly end of First Street, so the traffic can pass readily from this street to Lechmere Square. Both widenings will substantially improve traffic conditions along the river.

The Commission considers that the street widenings recommended are a most important part of the improvement of the Charles River Basin, and in the bill accompanying this report the two cities are given authority to carry out such widenings, issuing bonds for the same outside of the debt limit.



Charles River Basin. Boston Embankment between Cambridge and Beacon Streets, 1928

The Relation of the Charles River Parkways to a Comprehensive Plan for Handling Traffic in the Downtown Section of Boston

The contention is frequently made that vehicular access to the center of the city should not be encouraged or bettered, and that the business portion of the city should thus be forced to spread out.

In every large urban center, business tends to concentrate because of the greater convenience that thus results. Downtown Boston is not nearly as densely populated during the business hours of the day as the business sections of most large American cities; and within the area bounded by

Charles Street, Kneeland Street and the waterfront, the business population of the city could be vastly increased without approximating the density of lower New York, the Loop in Chicago or the central part of Philadelphia.

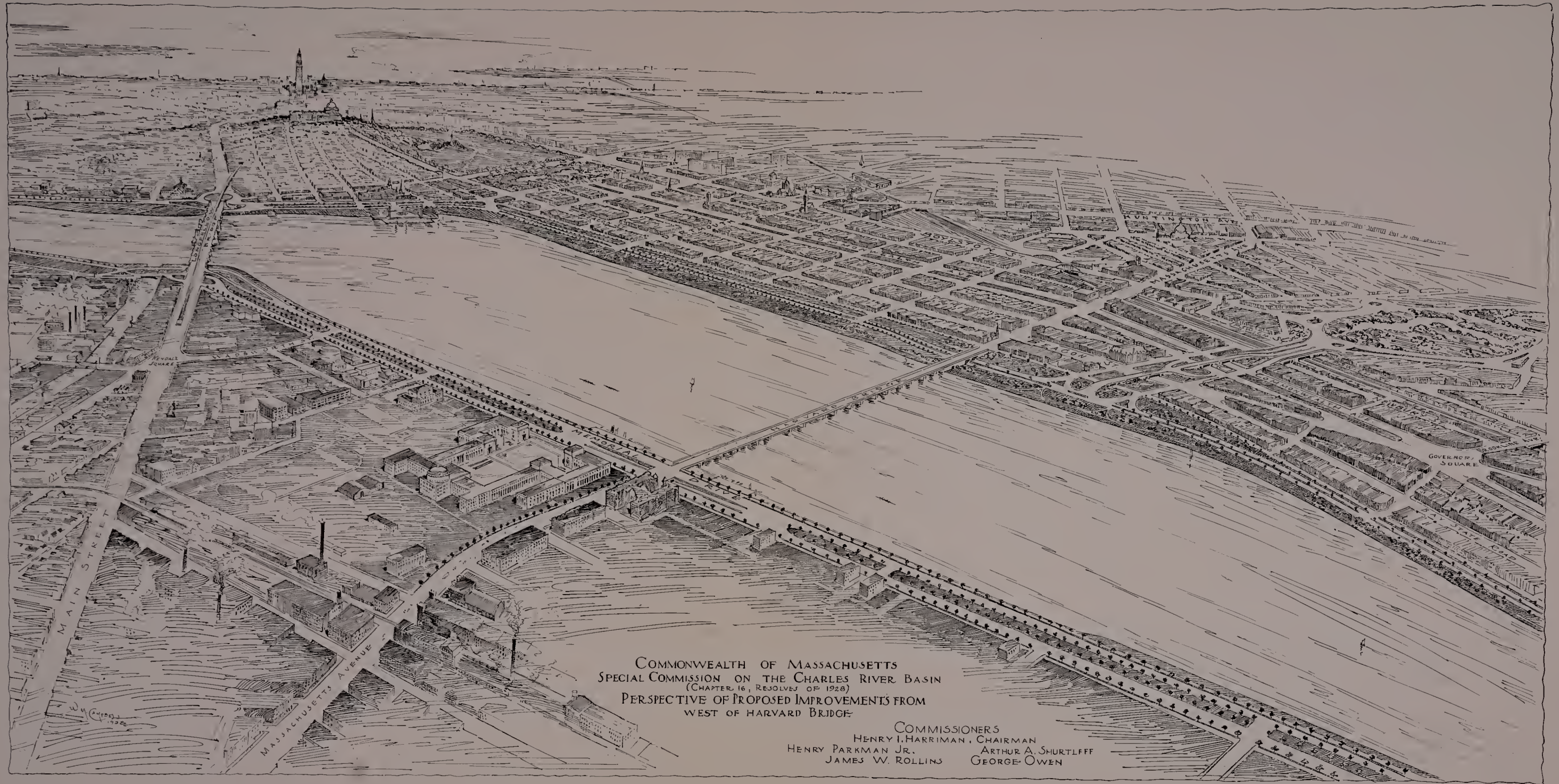
There is little chance that the main business section of the city will move above Charles Street, although undoubtedly important secondary sections will grow up, as has been true in the case of the Park Square district.

As the streets of downtown Boston are already overcrowded with automobiles, it is perfectly proper to ask whether any large project such as the



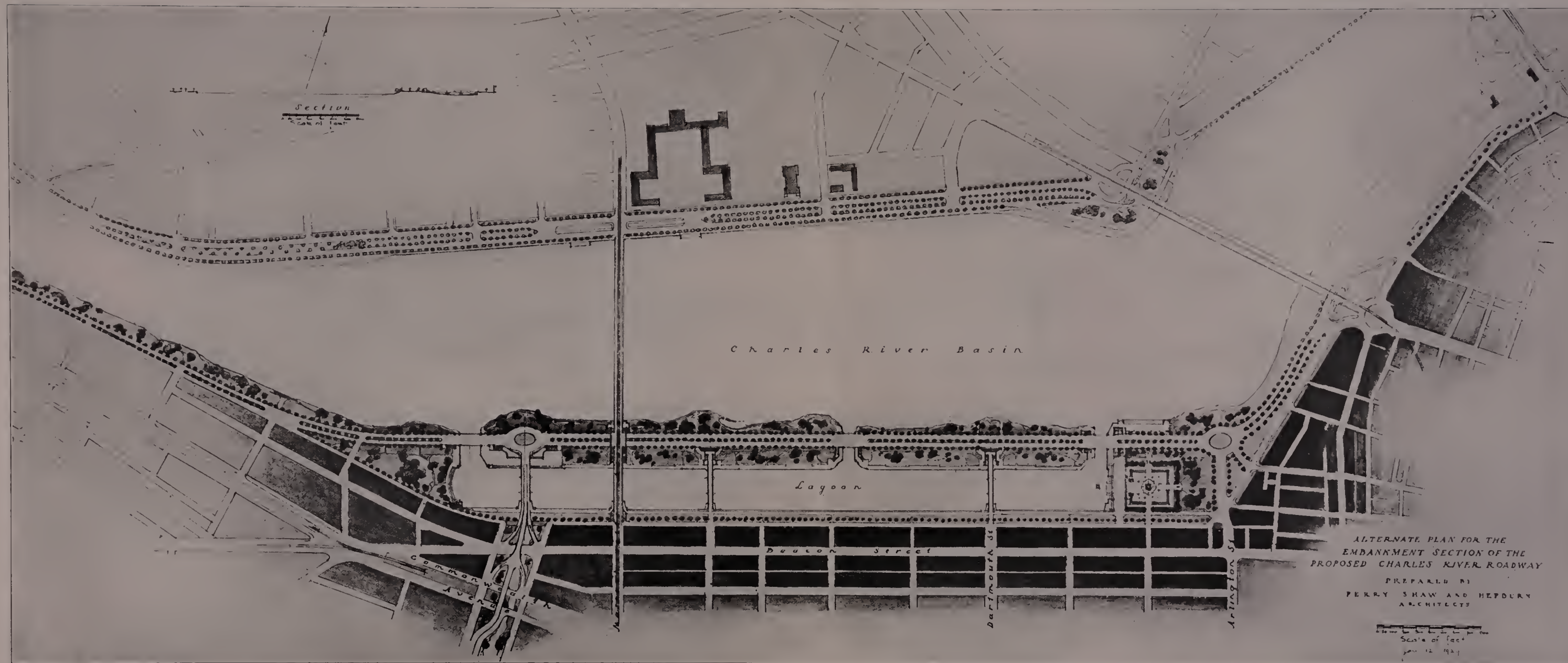
Charles River Basin, 1928. Boston side, Longfellow Bridge, to Gloucester Street

Charles River Basin project fits in with the general vehicular plan for the downtown section. All of the planning boards which have studied this matter are in agreement that the time will soon come when lower Boston must, in part, be surrounded by a wide elevated roadway with which the main arteries of travel will connect, and in this report such a plan, prepared by the Division of Metropolitan Planning, is shown. The plan clearly shows how the Charles River Basin parkways lead into a widened Charles Street, and also that Nashua Street will fit in and become a part of this loop system. It is well known that a highway with few intersections carries



COMMONWEALTH OF MASSACHUSETTS
SPECIAL COMMISSION ON THE CHARLES RIVER BASIN
(CHAPTER 16, RESOLVES OF 1926)
PERSPECTIVE OF PROPOSED IMPROVEMENTS FROM
WEST OF HARVARD BRIDGE

COMMISSIONERS
HENRY I. HARRIMAN, CHAIRMAN
HENRY PARKMAN JR. ARTHUR A. SHURTLEFF
JAMES W. ROLLINS GEORGE OWEN





Outer Alster Basin, Hamburg, showing Marginal Roadway and Pleasure Boats



Embankment and Bridge between Inner and Outer Alster Basins, Hamburg, and Adjacent Shore Development, 1928

from four to five times as many vehicles as a highway of equal width with numerous intersections; and it is felt that a highway partly bordering the basin and partly elevated will bring vehicular traffic within a short distance of all parts of the downtown region. Such a highway will be within five minutes walk of the important business sections of downtown Boston. Undoubtedly many garages will border this highway, and undoubtedly there will be further restrictions or possibly the entire prohibition of parking in the downtown business region. What we desire to point out is that the Charles River Parkway system leading into this circumferential elevated way is a most important element of any comprehensive downtown plan, and it is interesting to note that the mayor of Boston has introduced legislation in connection with the proposed East Boston tunnel that will carry

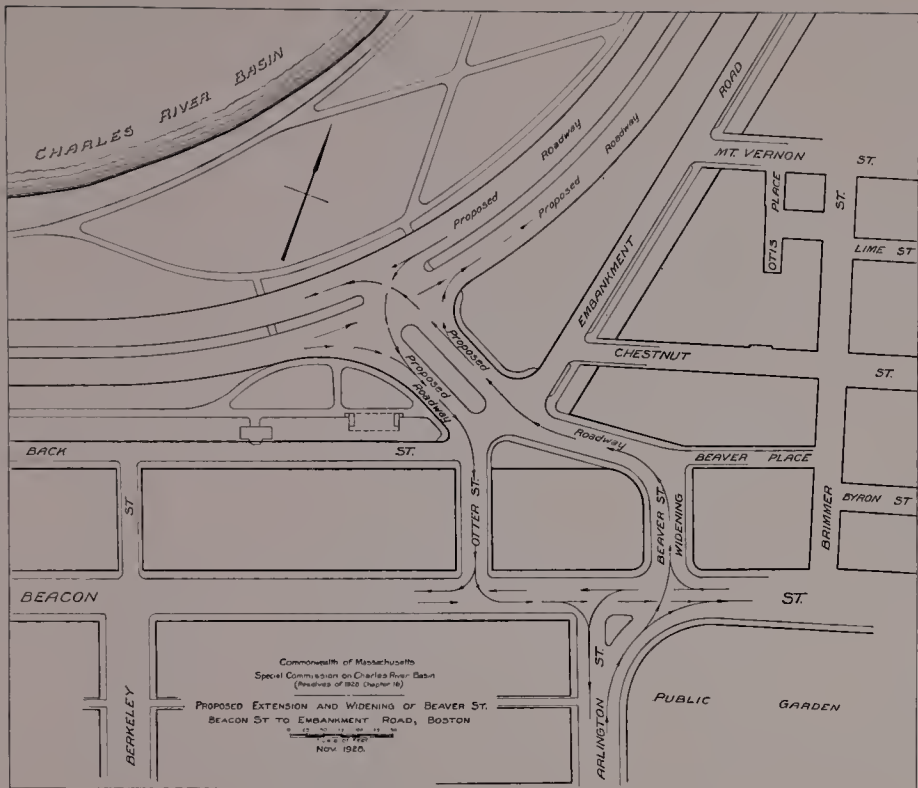
Nashua Street across to Atlantic Avenue either as a surface or an elevated street or both, and that he has expressed himself as strongly in favor of converting the Atlantic Avenue Elevated into an elevated highway.

The Commission cannot too strongly emphasize the element of safety that is found in a parkway such as is proposed for the Charles River Basin. This parkway will be fenced, will have few if any intersections and will carry a very large portion of the travel which now uses Beacon Street, Marlboro Street and Commonwealth Avenue.

The Back Bay is one of the dangerous sections of Boston from the traffic standpoint, as is shown in the following figures, giving the number of fatal and other accidents occurring in that region in 1928. These figures are as follows:—

Name of Street	Number of Killed	Number of Injured
Commonwealth Avenue	3	116
Beacon Street	2	63
Boylston Street	2	32
Newbury Street	—	16
Marlboro Street	—	9
Bay State Road	—	3
Other streets	3	31
	10	270

These are most appalling figures for the killed and injured in one relatively small section of Boston in a single year.



The construction of the Charles River Parkway will not of course obviate all accidents in the Back Bay region, but it may well be expected that a substantial portion of the accidents which now occur in that region will be avoided by the construction of the new parkway. Traffic engineers feel that within the next fifteen years we may expect an increase of 70 per cent in the number of vehicles on the highways, and this will undoubtedly increase the number of accidents. Even though the present streets of the Back Bay region can carry the traffic, the Commission believes that the saving of life and limb that will result from the construction of the riverway will be a full justification for its creation.

New Bridges

The Commission has been urged to recommend the construction of a new bridge at Dartmouth Street. It does not, however, believe that the Dartmouth Street bridge is required at this time. Its expense would be large, probably \$5,000,000, and it is the belief of the Commission that if the approaches to the Longfellow bridge and the Massachusetts Avenue bridge are cleared of congestion, as is proposed in this report, both of those bridges can carry a greatly increased flow of traffic and delay the need of the Dartmouth Street bridge.

While this bridge may be needed at some later date, its construction will undoubtedly change the entire character of Dartmouth Street and possibly of the entire Back Bay region.

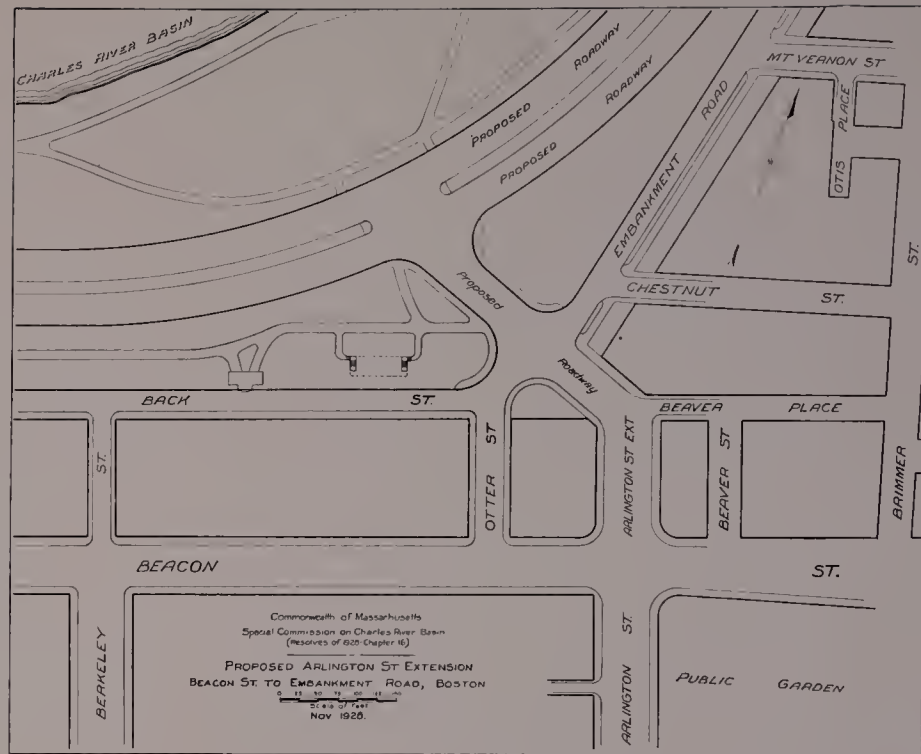
A suggestion has also been made for the construction of a bridge between Charlesgate East and the Cambridge shore. This also is a bridge which may well be required at some future date, but is not required at this time.

Boating

There remains to be considered the increased use of the Charles River Basin as a body of water for boating of all kinds. The first requisite for boating is quiet water. Boat houses, boat landings and other facilities are of little use unless the boats can get out on fairly smooth water. What has limited in the past shell rowing, canoeing and other forms of water sports on the wide expanse of the lower Charles is the very choppy sea that even a moderate wind will stir up. This roughness of the water has been much accentuated by the perpendicular stone walls along the Boston side of the basin. The prevailing winds during the rowing and boating season are westerly, and these walls reflect back rather than absorb the wave action of the river, and make unsafe or impossible canoeing, sculling and other forms of boating for many days each season. Regattas cannot now be planned because of the uncertainty as to water conditions. The elimination of the embankment wall on the Boston side, and the widening of the embankment with the provision of a sloping beach which will absorb and not reflect wave action, all of which form a substantial part of this Commission's recommendations, it is believed will greatly improve water conditions in the basin. Because the prevailing winds are from the west and northwest the Commission does not believe that the removal of the vertical wall on the Cambridge side would have much effect on the roughness of the water, and so does not recommend it at this time.

The boating interests have urged as their ideal for the improvement of water conditions the construction of a series of islands in the center of the river to reduce wave action and to secure a lee shore for rowing, whatever the direction of the wind. Islands have also been suggested by groups of architects who have felt that from an artistic standpoint the lower Charles River Basin is too wide. This Commission does not believe that islands are needed at this time or are desirable, and is in sympathy with the strong public sentiment which favors the retention of the basin as an unbroken expanse of water. It believes that the new embankment, with its sloping beaches and irregular shore line, will sufficiently improve rowing conditions. If it is found that conditions are not sufficiently improved to promote a much greater use of the basin by boating interests, other means can later be considered for temporary use during the rowing season. If at a later date there should prove to be an irresistible demand for additional bridges across the basin, the problem of islands in connection with such bridges should then be given most careful consideration.

It should be noted that landing places for boats are shown at numerous places along the river, and doubtless other landings will be required as the use of the river increases. The Commission is very desirous that boating



on the river be encouraged in every reasonable way, and to that end locations for boat houses of unobtrusive design and properly masked by planting should be granted from time to time to responsible boating organizations.

Legality

Certain residents on Beacon Street claim that the limitations on the width of the embankment and the provisions for the assessment of betterments found in the original Charles River Basin Act of 1903, as amended in 1906, constitute an agreement between the Commonwealth and the property owners on the waterside of Beacon Street that the embankment will never be widened.

The Commission has the advice of able counsel that the limitations on the width of the Esplanade imposed in the Acts of 1903 and 1906 were simply limitations on the work that was to be performed by the Charles River Basin Commission and in no way bound the Commonwealth against further widenings of the Esplanade when altered conditions required the same. They point out that contracts with the State must be expressed and not implied. They further point out that, if such a contract did exist, rights under it could be condemned.

Practically every act for an important street widening has had limitations on the width of the widening and most of such acts provided for the



Upper Charles River Basin. Harvard Business School, the Stadium and the Larz Anderson Bridge, 1928

assessment of betterments. Surely it would not be contended that the Northern Artery or the Southern Artery could never be widened because of such limitations.

It has been further contended that even if there is no legal contract preventing the State from widening the Esplanade, there is at least a moral obligation. When the act of 1903 was passed, there were less than 10,000 automobiles registered in the Commonwealth. Today there are about 900,000 registered. Surely it would be a stretch of imagination to say that any moral obligation should bind the Commonwealth when the entire

traffic situation has so radically changed and after a lapse of twenty-five years.

A Generous Gift

A generous citizen of the Commonwealth, who has long loved and admired the Charles River Basin, has offered to contribute \$1,000,000 to its beautification and improvement. The only condition of the gift is that the money be used in connection with legislative appropriations to carry out a comprehensive plan for the beautification and improvement



Upper Charles River Basin. Perkins Institution for the Blind, Watertown

of the Charles River Basin. This splendid gift is a notable example of fine citizenship and of the wise use of large means.

Costs

The Commission estimates that the cost of the improvement of the basin as recommended in this report will be about \$4,250,000. Deducting from this gross cost the gift of \$1,000,000 leaves the net cost of the improvement of the basin to the Commonwealth \$3,250,000, of which \$850,000 should be paid from the highway fund; \$150,000 by the city of Cambridge

as its fair portion of the cost of the underpass of Memorial Drive under Massachusetts Avenue; and \$150,000 by the city of Boston as its just proportion of the cost of the connection between Commonwealth Avenue at St. Paul Street and the riverway. The balance of \$2,100,000 should be assessed on the thirty-seven cities and towns of the Metropolitan Parks District. The above cost is exclusive of the cost of certain street improvements which Boston and Cambridge are authorized to carry out at their pleasure.

The cost is large, but the resultant benefits to the metropolitan area will be great, and the Commission knows of no place at which an equal expenditure will produce equal value. The river will be made suitable for boating; playgrounds will be enlarged and established; a water park of extraordinary beauty will be created; and the completion of the fifteen miles of parkway bordering both banks of the river will make an entrance to Boston unrivaled by that of any other American or foreign city.

The net cost of the project, \$3,250,000, is much less than the cost of widening and improving Cambridge Street. It is about the same as the cost of the Northern Artery. It is lower than the cost of widening Kneeland and Tremont streets. Furthermore, carrying out this program will substantially complete the proposed parkway system for the Metropolitan District.

The major portion of the cost of the improvement of the Charles River Basin as recommended in this report should, in our opinion, be paid by the Metropolitan Parks District. This follows the precedent established in the original construction of the basin. The Charles River Basin is a large water park, and should be considered as much a metropolitan project as the Middlesex Fells or the Blue Hills Reservation. It is, further, the established custom that one-half of the cost of parkway construction be paid from the highway fund, and this precedent should, in the opinion of the Commission, be followed until the Metropolitan Parkway System is complete.

The items charged to Boston and Cambridge are items which are in part for the benefit of the Metropolitan Park System and in part for the benefit of local streets. Accordingly we have divided the cost of the underpass at Massachusetts Avenue and Memorial Drive between Cambridge and the Metropolitan Parks District, and the cost of the overpass from Commonwealth Avenue to the riverway between Boston and the District.

The work of construction will undoubtedly extend over a period of years after the passage of an act, and accordingly we recommend that \$525,000 be assessed on the Metropolitan Parks District in each of the

following years: 1929, 1930, 1931 and 1932. The Commission likewise recommends that \$300,000 be charged to the highway fund in 1929, \$300,000 in 1930, and \$250,000 in 1931.

Finally, the Commission advises that the cities of Boston and Cambridge be authorized to pay for the street improvements provided for in this act (including their portions of the amounts assessed upon the Metropolitan Parks District) by the issuing of serial bonds running for a period of not over fifteen years, said bonds to be outside the debt limit.

The plan proposed will not place a heavy burden upon the Metropolitan Parks District, the highway fund, or the cities of Boston and Cambridge in any one year. In fact, the annual amount to be charged to the Metropolitan Parks District for the four-year period will be approximately 13 cents per thousand per year upon its valuation.

The Commission estimates the cost of the work as follows:

<i>Item 1.</i> — Filling on the Boston and Cambridge sides of the Charles River Basin between the dam and the Cottage Farm bridge, riprapping shore, loaming, seeding and rolling, formal landing and plaza, granolithic walks, Muddy River culvert and overflow, reconstruction of one arch of the Harvard bridge, sea wall along the Charlesbank Park, and property damages	\$1,850,000
<i>Item 2.</i> — Construction of landings, beaches and general improvements of the embankment of the river, including planting of shrubbery and trees	250,000
<i>Item 3.</i> — Construction of double parkway on the Boston side of the river from Cambridge Street to the Cottage Farm bridge, including an underpass of the Longfellow bridge and a connection between the parkway and Commonwealth Avenue at St. Paul Street . . .	950,000
<i>Item 4.</i> — Construction of an underpass carrying Memorial Drive under Massachusetts Avenue, Cambridge, and roadway near Cottage Farm bridge	350,000
Total cost of improvement in the lower basin . . .	\$3,400,000

<i>Item 5.</i> — Construction of a parkway between the end of Alewife Brook—Fresh Pond Parkway and the Soldiers Field Parkway, including the cost of a bridge at Gerry's Landing . . .	\$300,000
<i>Item 6.</i> — Construction of a parkway on the Boston side of the river from the end of the Arsenal Street bridge to the end of the Faneuil bridge	325,000
<i>Item 7.</i> — Extension of the parkway on the Newton side of the Charles River from its present westerly terminus at Maple Street to the Newton—Watertown line	225,000
Total cost of improvement in the upper basin . . .	\$850,000
Grand total of Charles River Basin improvement . .	\$4,250,000
Less gift	1,000,000
Net cost to Commonwealth	\$3,250,000

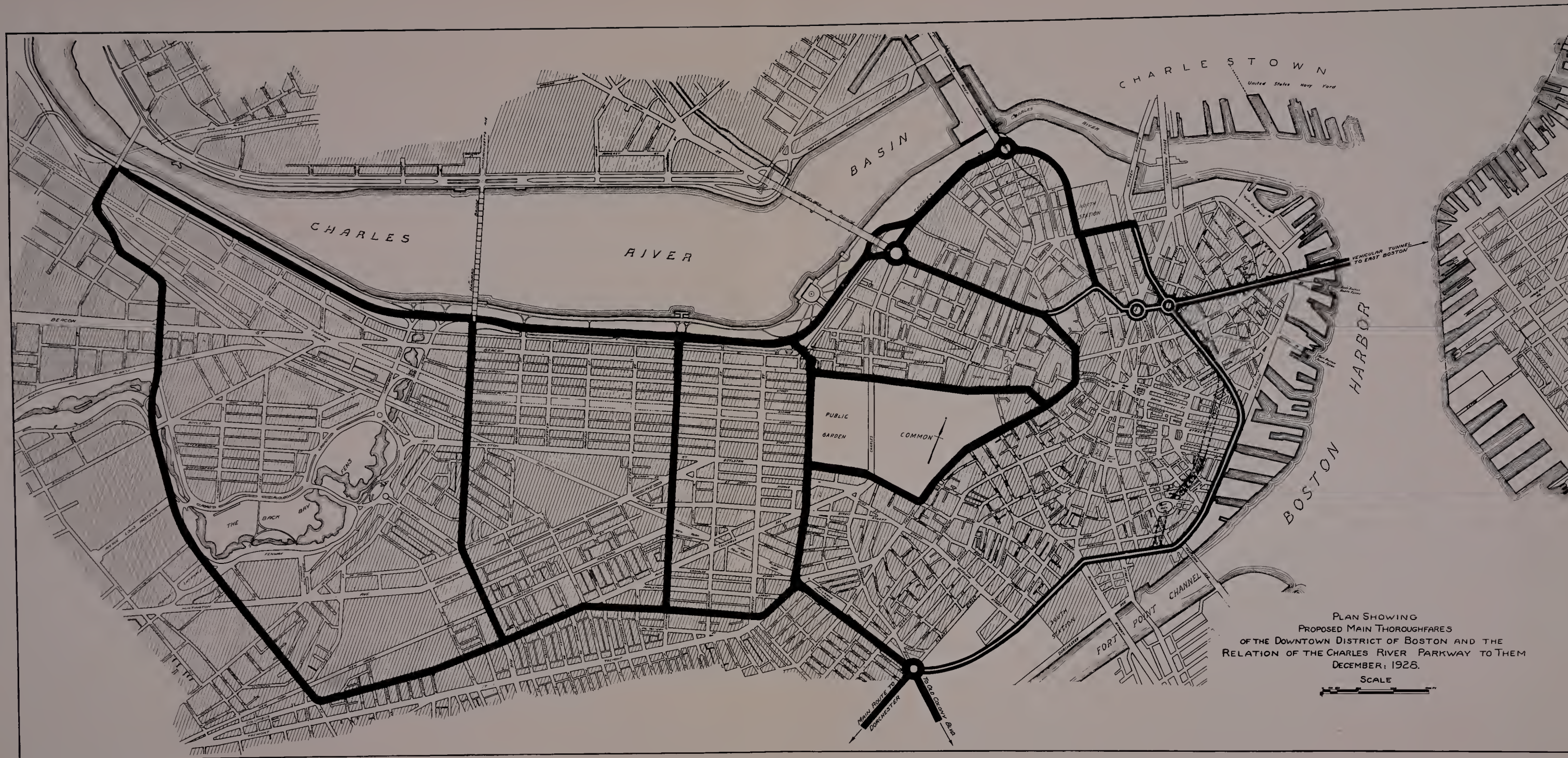
Conclusion

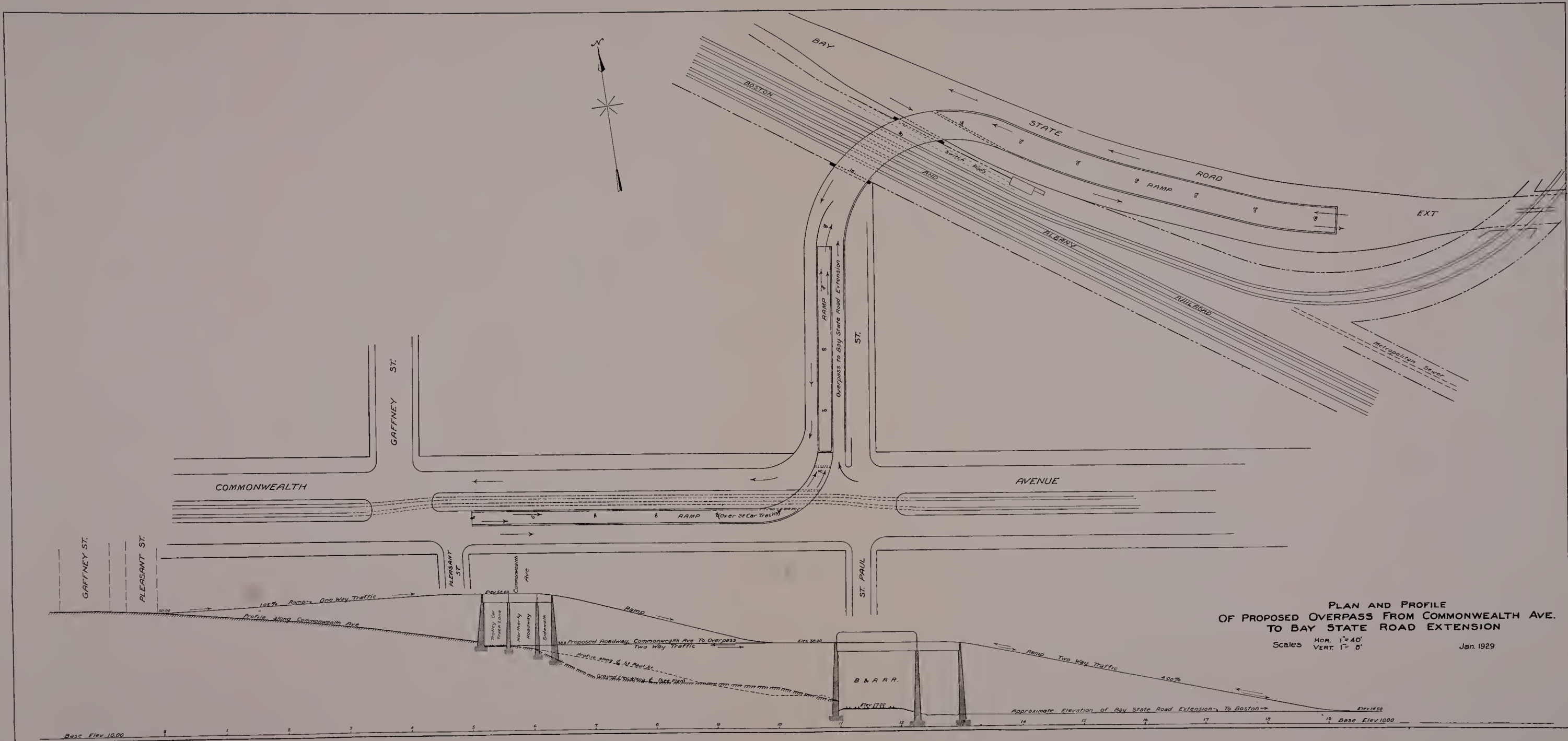
The Charles River Basin is already a water park of great beauty. It now affords health, comfort and enjoyment to thousands of people, but it can be made more beautiful and of greater benefit to the cities and towns of the metropolitan area if the plans presented in this report are carried out. The aim of the Commission has been to make of the Charles River Basin the most beautiful and useful water park in America. To do this boating and canoeing must be made safe, the banks of the river must be shelved to the water's edge, swimming pools and playgrounds must be constructed, boat landings built, parks and parkways constructed, and the basin made a safe and attractive entrance to Boston for thousands who move in and out daily. Thus, the basin can be made useful, enjoyable, and health-giving to the greatest number of the people of the district.

Respectfully submitted,

SPECIAL COMMISSION ON THE CHARLES RIVER BASIN.

HENRY I. HARRIMAN, *Chairman.*
HENRY PARKMAN, JR.
JAMES W. ROLLINS.
ARTHUR A. SHURTLEFF.
GEORGE OWEN.





PLAN AND PROFILE
OF PROPOSED OVERPASS FROM COMMONWEALTH AVE.
TO BAY STATE ROAD EXTENSION

Scales HOR. 1"=40'
VERT. 1"=8'

Jan. 1929

APPENDIX A

Comparative Statistics

Present area of Charlesbank Playground and Park (acres)	9.57
Area of proposed playground and park (acres)	15.38
Area of present esplanade on the Boston side of the river (acres)	25
Area of proposed esplanade on the Boston side of the river (acres)	44
Number of vehicular crossings or intersections on Beacon Street and Commonwealth Avenue between Massachusetts Avenue and Arlington Street	7
Number of crossings on new parkway	None
Number of intersections on new parkway	3
Present length of parkways along the Charles River between the dam and Watertown (miles)	10.9
Length of parkways between the dam and Watertown if proposed plans are carried out (miles)	14.7

APPENDIX B

THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC HEALTH

STATE HOUSE, BOSTON, November 13, 1928.

To the Special Commission on the Charles River Basin, 44 School Street, Boston, Mass.,
MR. HENRY I. HARRIMAN, Chairman.

GENTLEMEN: — The Department of Public Health received from you on August 22, 1928, an application for advice with reference to the establishment of swimming pools or beaches at various places along the Charles River Basin, in which you request the advice of the Department, as follows:

. . . Under certain conditions we understand there is more or less surface drainage discharging into the basin, and before preparing any plans for swimming basins, we would greatly appreciate it if your Department would give us an analysis of the water at five places on the river and your opinion as to whether the water is suitable for public bathing. The places we desire are —

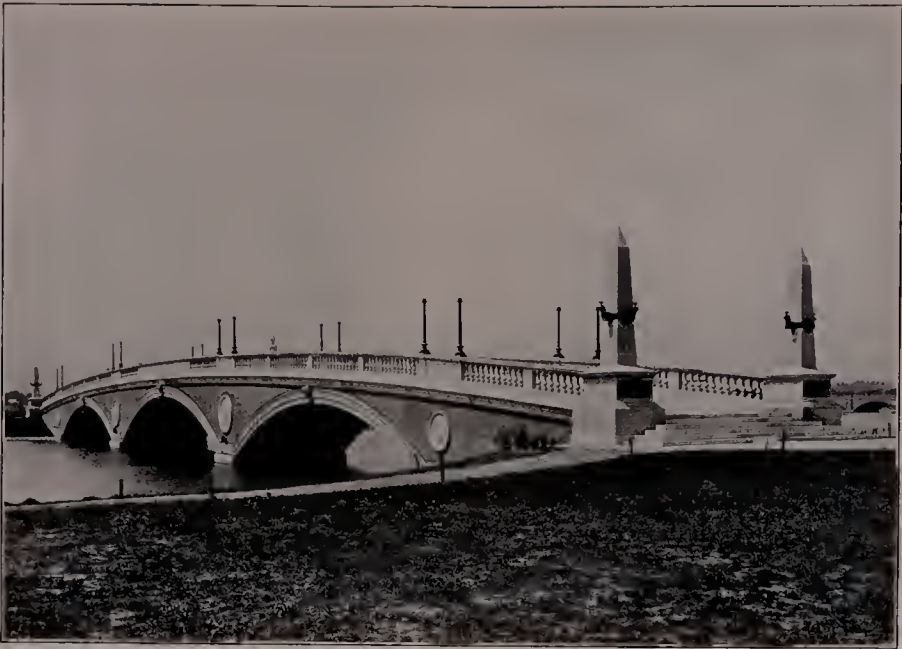
First. — On the Boston side between the dam and Longfellow beach.

Second. — On the Boston side opposite Embankment Road near the Union Boat Club House.

Third. — At a suitable place about halfway between the Harvard bridge and the Cottage Farm bridge.

Fourth. — In the vicinity of the Magazine Street beach.

Fifth. — In the basin below the Perkins Institute in Watertown.



John W. Weeks Memorial Bridge
Upper Charles River Basin

In response to this request the Department has had analyses made of the waters of the basin at a number of points throughout its area, selected with a view to the general indication of the character of the water. A summary of the results of these analyses is on file at the office of this Department. For comparison with this table another table of analyses is also on file showing the average of the results of analyses of samples of water in different years at various bathing beaches in and about the Metropolitan District. A comparison of these tables of analyses shows that the waters of the Charles River Basin contain much larger numbers of bacteria, including the colon group, than are found in the waters of any of the bathing beaches indicated, the examinations at the latter points having been made generally when the beaches were being used by numbers of bathers.

Considering the matter in a general way, it is evident that the bathers at all public bathing places such as those indicated in the tables are exposed to polluted waters. However, no satisfactory evidence is available to show direct transmission of disease in this way. This last summer complaints have come from various points along the coast, and the Department understands similar complaints have been received in the other New Eng-

land States bordering the ocean, to the effect that pustular and impetiginous infections have resulted from bathing in polluted waters. Similar complaints have also been received from the use of inland swimming pools, and, in few instances, lakes. The Department communicated extensively with the various dermatological clinics in Boston, and was informed that last summer there seemed to be a considerable increase in these infections at the clinics as well as at the private offices. The best opinion seems to indicate that if these infections are spread through bathing they are spread by interchange of infected towels, clothing and other direct contacts between an infected individual and a non-infected individual. The clinics have noted no marked prevalence of these infections among persons who have visited any of these beaches, and the feeling has been rather that they have been more prevalent among the underbathed. From time to time complaints of eye, throat and ear infections in connection with bathing have been made. A few years ago one of these came from the region of Lake Walden. Extensive investigation and inquiry showed no reason to directly blame the small amount of eye, ear and throat infection, which seemed to be at the bottom of the complaint, to bathing in Lake Walden. Eye disturbances have occasionally been reported from overchlorination. Ear infections, in addition to the perforation of the drum, which occasionally results from diving, have been felt to be due to prolonged exposure in cold water. This is rather theoretical, but if true, these conditions are due to the temperature rather than to infection from the water. While it is undesirable to expose individuals to diluted sewage through bathing, in this State it has been practically impossible to authoritatively trace disease to such exposure.

The water of the Charles River at the various bathing places indicated in your application is considerably more polluted than at the other bathing places in the city or Metropolitan District, but even here bathing has been resorted to for many years with no concrete evidence of injury to the public health. The Department finds as a result of the investigations, however, that the river and basin are becoming increasingly polluted, and that measures are necessary to relieve it of pollution, especially from the overflow of sewage and storm water which now enters the basin at times of storm. This will require a large outlay for the separation of sewage from storm water, especially in Cambridge, and probably some serious readjustment of drainage on the Boston side of the river. The condition of the basin was considered quite fully in a report to the Legislature of last year by this Department jointly with the Metropolitan District Commission, and a copy of that report, which contains much information with relation to the Charles River, is also available at this office.

Respectfully,

GEORGE H. BIGELOW, M.D.,
Commissioner of Public Health.

APPENDIX C

An Act providing for the Improvement of the Charles River Basin, for the Laying Out and Construction of Certain Parkways, and for the Improvement of Certain Streets in Boston and Cambridge

PART I

SECTION 1. The metropolitan district commission, hereinafter called the commission, is hereby authorized to lay out and/or construct in accordance with the provisions of chapter ninety-two of the General Laws the following work in and near the Charles River basin, and may make takings therefor in accordance with the provisions of chapter seventy-nine of the General Laws.

SECTION 2. The commission may widen the Charlesbank park and playground between the dam and the Longfellow bridge; the Boston embankment between the Longfellow bridge and Charlesgate West; and extend the shore line into the basin along Back street and Bay State road between Charlesgate West and the Cottage Farm bridge, and also along Memorial drive, Cambridge, between Fowler street and the Cottage Farm bridge. In connection with the above authorizations the commission may do such work as it may deem necessary or desirable, including fillings, sea walls, beaches, sloping banks, shore protection, loaming, planting, surface drainage, walks, conduit overflows, culverts and other work appurtenant thereto, including the construction of a formal landing and plaza near the Longfellow bridge and other landings along the river; provided, however, that the width of the new fillings at the water level opposite the Charlesbank playground shall not exceed three hundred feet; opposite the Boston embankment, between Longfellow bridge and Otter street, shall not exceed four hundred feet; opposite the Boston embankment, between Otter street and Raleigh street, shall not exceed four hundred feet; opposite Back street and Bay State road, between Raleigh street and the Cottage Farm bridge, shall not exceed three hundred feet; and along Memorial drive, Cambridge, between Fowler street and the Cottage Farm bridge, shall not exceed one hundred feet.

The commission may also make such improvements of the banks and the basin, including landings, walks, planting, fillings, etc., between the Cottage Farm bridge and the dam at Watertown, as they may deem desirable.

SECTION 3. The commission is hereby further authorized to lay out and construct, in accordance with the provisions of chapter ninety-two of the General Laws relating to the laying out and construction of parkways and boulevards, the following described parkways and boulevards:

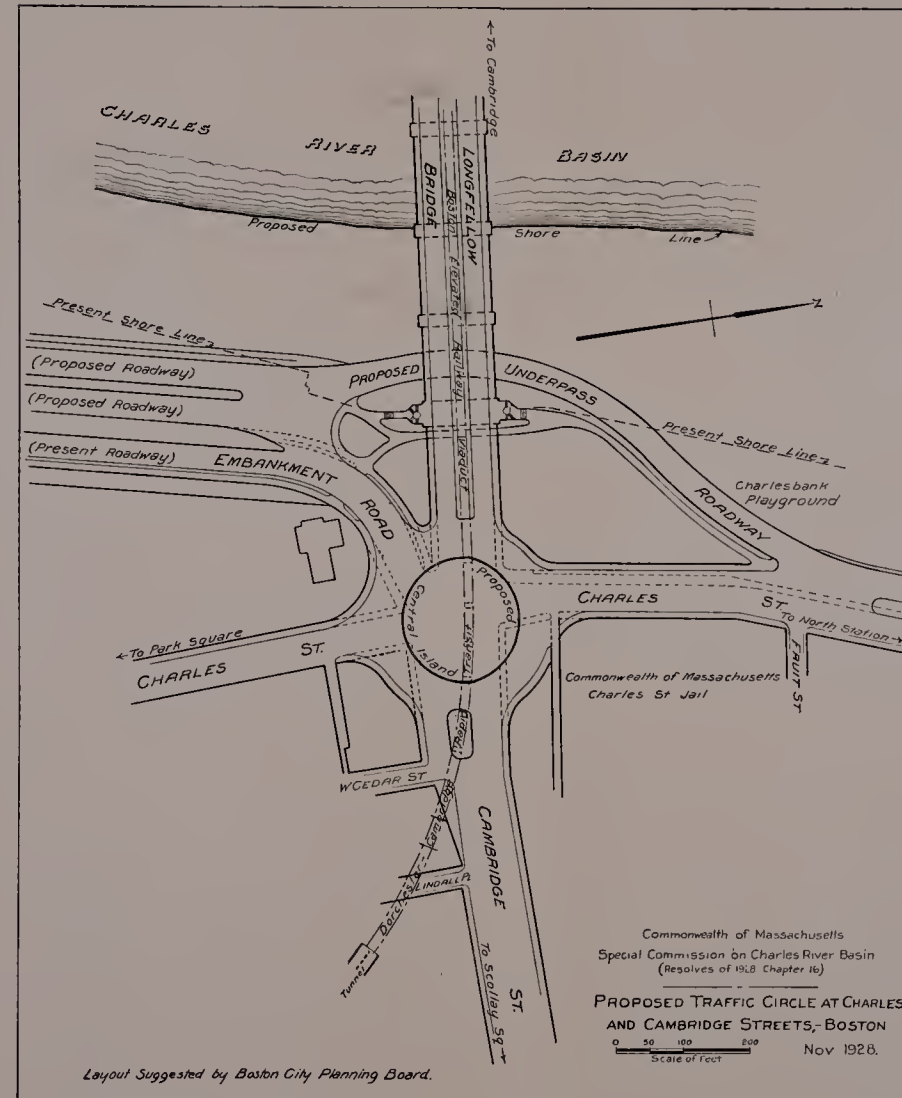
(a) A boulevard or parkway, depressed as far as is feasible, consisting for the major part of its length of a double roadway with traffic control signal lights between the Longfellow bridge and the Cottage Farm bridge on the Boston embankment, including such reconstruction of the Massachusetts avenue bridge as may be necessary to pass beneath it, and in-

cluding, also, a connection passing under the Longfellow bridge to Charles street north of Cambridge street. There shall be no vehicular connection between Bay State road and said new parkway west of Charlesgate West.

(b) An underpass in Memorial drive in the city of Cambridge, carrying the parkway under Massachusetts avenue.

(c) A section of parkway or boulevard on public land in Cambridge parallel to the present Memorial drive, between Fowler street and the bridge over the Grand Junction Branch of the Boston and Albany railroad.

(d) A section of parkway or boulevard from a point at or near the intersection of Arsenal street and Walnut street in the Brighton district



Cambridge Shore of the Charles River Basin in 1893,
near the Present Larz Anderson Bridge

of the city of Boston, thence over public or private lands and public or private ways to a point on North Beacon street in said Brighton district west of the crossing thereof of the Boston and Albany railroad.

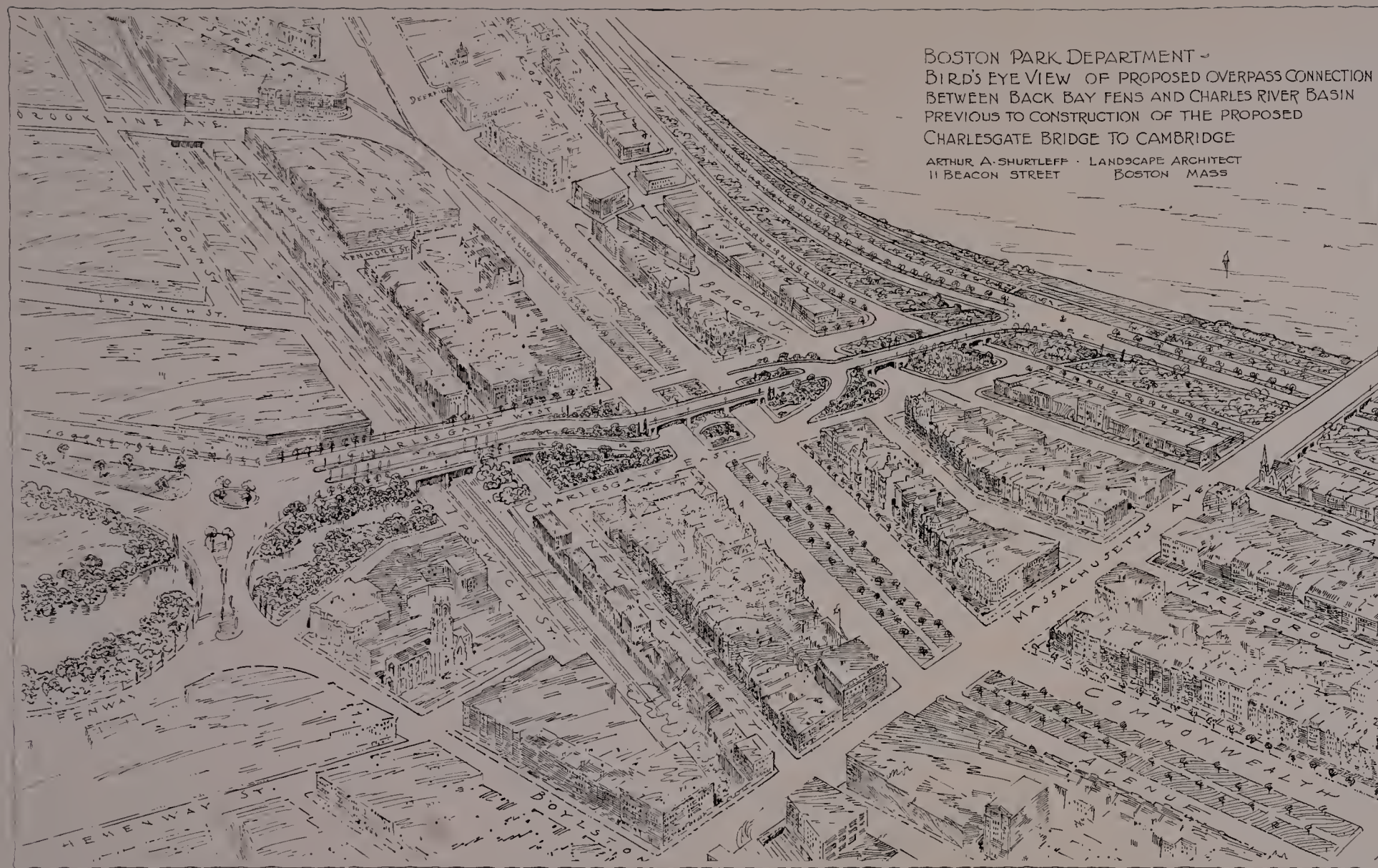
(e) A parkway or boulevard beginning at a point in Nonantum road in the city of Newton at or near Hyde Brook, thence over public or private lands and public or private ways in the city of Newton and the town of Watertown to a point on Galen street in said town of Watertown at or near its intersection with California street, thence over and along said California street and public or private land to a point on the boundary between the town of Watertown and the city of Newton.

(f) A parkway or boulevard commencing at Mount Auburn street in Cambridge, opposite the Fresh Pond parkway, thence over land of the Commonwealth, across the Charles river by a suitable bridge, and over lands of the Commonwealth to suitable connections with the Soldiers Field road in the Brighton district of the city of Boston.

(g) A connection between the Bay State road extension westerly of the Cottage Farm bridge and Commonwealth avenue near St. Paul street by means of a viaduct or bridge over the tracks and land of the Boston and Albany railroad, together with suitable approaches and connections over public or private lands and public or private ways.

SECTION 4. For the purpose of carrying out the work authorized in sections two and three of this act, the commission may expend such sum not exceeding four million two hundred fifty thousand dollars as may hereafter be appropriated.

One million dollars of said cost shall be met from a gift of one million dollars made to the commonwealth of Massachusetts for the purpose of



beautifying and improving the Charles River basin. One hundred fifty thousand dollars of the cost shall be paid by the city of Boston in nineteen hundred thirty as its fair share of the cost of the construction of the overpass authorized by subdivision (g) of section three. One hundred fifty thousand dollars of the cost shall be paid by the city of Cambridge in nineteen hundred thirty as its fair share of the cost of the construction of the underpass authorized by subdivision (b). Eight hundred fifty thousand dollars of the cost shall be paid from the highway fund, three hundred thousand dollars being charged to the highway fund of nineteen hundred twenty-nine; three hundred thousand dollars to the highway fund of nineteen hundred thirty; and two hundred fifty thousand dollars to the highway fund of nineteen hundred thirty-one. The balance shall be assessed upon the cities and towns of the metropolitan parks district in proportion to the respective taxable valuations of said cities and towns as defined in section fifty-nine of chapter ninety-two of the General Laws, five hundred thousand dollars being assessed against and collected from said cities and towns in nineteen hundred twenty-nine, five hundred thousand dollars in nineteen hundred thirty, five hundred thousand dollars in nineteen hundred thirty-one, and the balance in nineteen hundred thirty-two.

The commonwealth, acting through the commission, may accept gifts to be expended for the beautification and improvement of the Charles River basin.

To meet temporarily the cost of the work authorized by sections two and three of this act, the state treasurer is hereby authorized, upon request of the commission and subject to the approval of the governor and council, to issue and sell at public or private sale short-time notes of the commonwealth. All such notes shall be issued and may be renewed for such maximum term as the governor may recommend to the general court in accordance with section three of Article LXII of the amendments to the constitution of the commonwealth, and shall bear interest payable semi-annually at such rates as shall be fixed by the state treasurer, with the approval of the governor and council. The total amount of any notes issued hereunder shall not exceed the sum of seven hundred fifty thousand dollars.

In connection with the improvements authorized by this act between Charlesgate West and the Cottage Farm bridge the commission may assess betterments, and any sums thus received shall be retained by the commonwealth to reduce the assessments which would otherwise be made upon the cities and towns of the metropolitan parks district.

SECTION 5. The commission shall have the care, maintenance, policing, and lighting of the northwesterly driveway of Memorial drive between Massachusetts avenue and the Longfellow bridge now under the care of the city of Cambridge, and also all bridges across the Charles River basin between the dam and the bridge at Watertown (including those two structures), which are not now under their care with their approaches and underpasses. The said driveway and bridges shall be open to all classes of vehicles.

PART II

SECTION 6. The board of street commissioners of the city of Boston may, with the approval of the mayor, lay out and order constructed —

(a) A vehicular circle at the westerly end of Cambridge street, including such widening and reconstruction of Cambridge street, Charles street, Embankment road and the approach to the Longfellow bridge as may be deemed necessary or desirable.

(b) A vehicular circle at the easterly end of the dam, including such reconstruction of Charles street, Leverett street, Nashua street and the approach to the dam as may be deemed necessary and desirable.

(c) A widening of Charles street between the dam and the Longfellow bridge, said widening to be made on the Charlesbank side of the street, and the widened street to have a width of not less than one hundred feet.

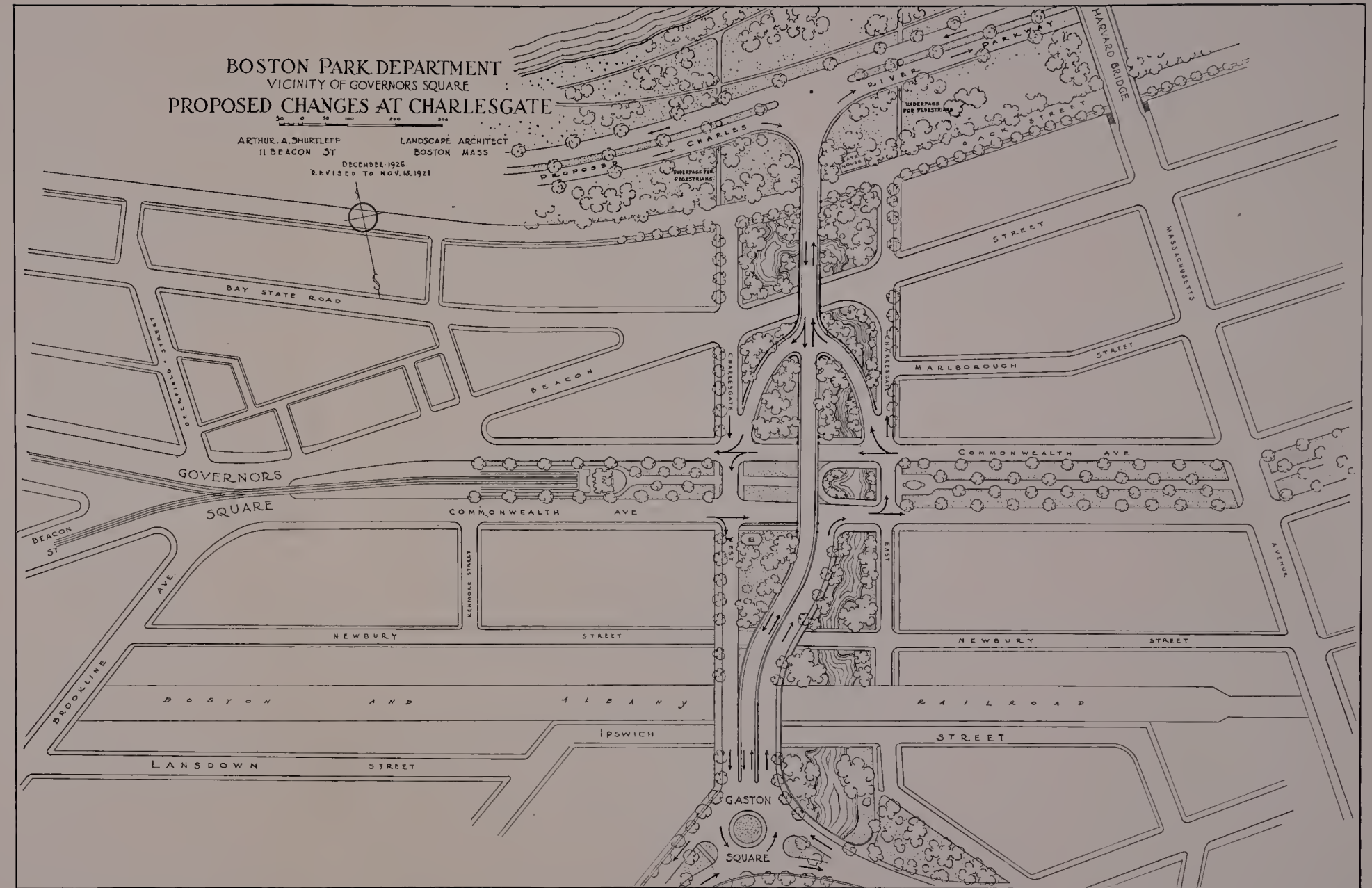
(d) An extension of Arlington street from Beacon street to Embankment road.

(e) A widening of Dartmouth street from Beacon street to the new parkway along the embankment.

(f) A widening of Hereford street from Beacon street to the new parkway along the embankment.

To carry out the work above authorized, the board of street commissioners of the city of Boston may alter, relocate or discontinue such existing public ways or portions thereof as may be necessary in connection therewith, may use public lands, and may take private lands by right of eminent domain. The said laying out, widening, extension, relocation and construction of streets, and the assessment of betterments therefor, shall be made in accordance with the provisions of chapter three hundred ninety-three of the acts of nineteen hundred six, as amended by chapter five hundred thirty-six of the acts of nineteen hundred thirteen and chapters seventy-nine and eighty of the General Laws.

SECTION 7. For the purpose of meeting the cost of the work authorized in section six, the special assessment of one hundred fifty thousand dollars provided for in section four, and the city's assessments for the work herein authorized as one of the cities and towns of the metropolitan parks district, the treasurer of the city of Boston, without any other authority than that contained in this act, shall, from time to time on request of the mayor, issue and sell at public or private sale bonds of the city to an amount not exceeding in the aggregate one million six hundred seventy-five thousand dollars. Said bonds shall be outside of the statutory limit of indebtedness. Each authorized issue of bonds shall constitute a separate loan. The bonds shall be designated on their face, "City of Boston, Street Widening and Extension Loan, Act of 1929"; shall be in such form of coupon or registered bonds as the treasurer of the city shall determine; shall be for such term not exceeding fifteen years from the dates of issue as the mayor and the treasurer of the city shall designate; shall bear interest in accordance with the provisions of chapter fifty-two of the special acts of nineteen hundred eighteen; and shall be payable by such annual payments as will





A Rowing Regatta on the Outer Alster Basin, Hamburg

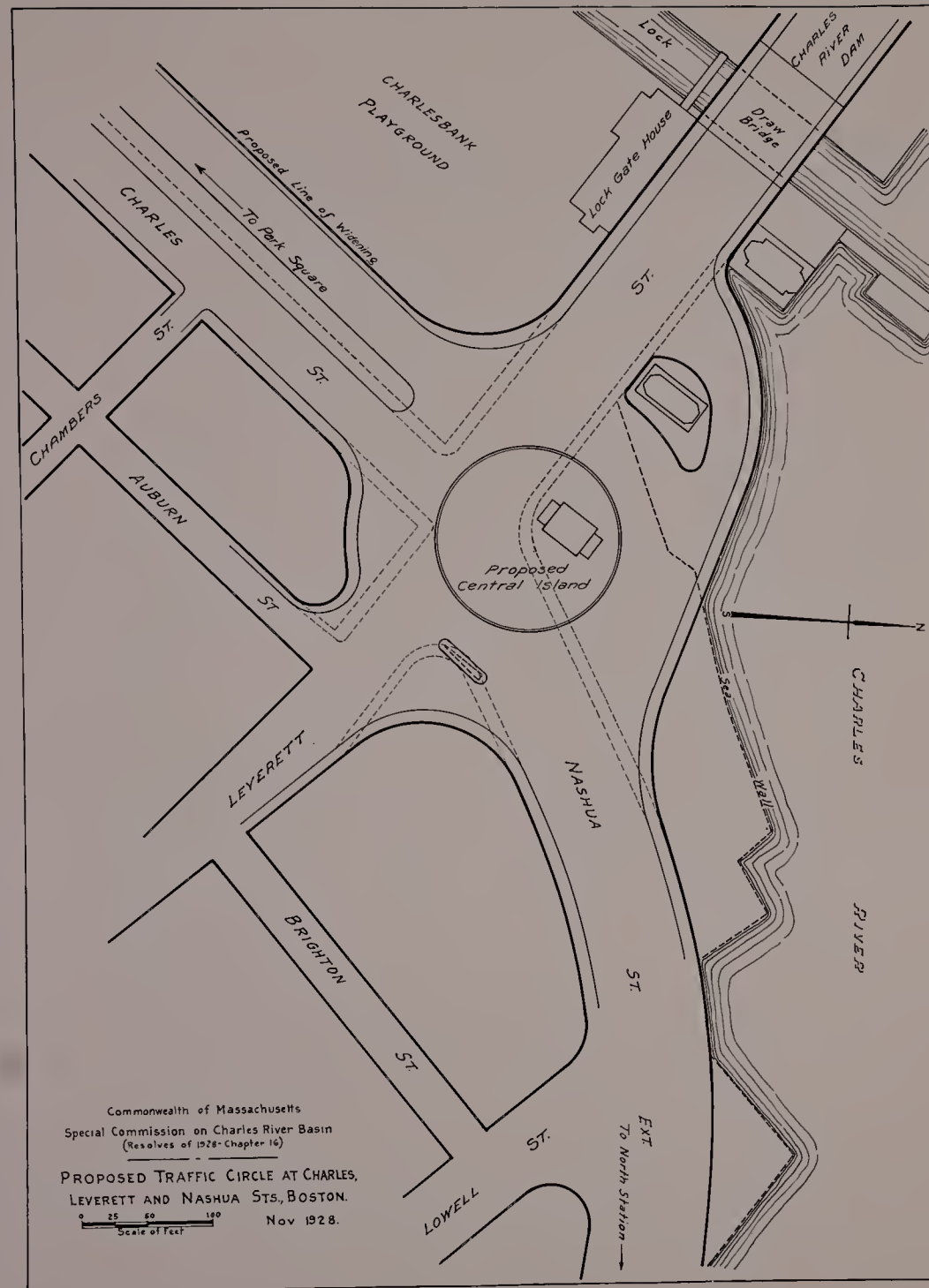
extinguish the same at maturity. The first of said annual payments on account of any loan shall be made not later than one year after the date of the bonds issued therefor. The amount of said payments in any one year on account of such loan shall not be less than the amount of the principal of the loan payable in any subsequent year. Said annual payments, together with the interest on the loan, shall without further action

be assessed until the debt is extinguished. The treasurer of the city of Boston shall hold the proceeds of said bonds in the treasury of the city, and shall pay therefrom the costs and expenses incurred under this act. Any premium received from the sale of said bonds less the cost of preparing and issuing the same shall be applied to the payment of the principal of the first bond or bonds to mature. The city treasurer may, with the approval



Outer Alster Basin, Hamburg. — "Lake of the Fairies"

of the mayor, make a temporary loan for a period of not more than one year in anticipation of the money to be derived from the sale of any issue of said bonds, and may issue notes therefor, and such notes may be refunded by the issue of new notes maturing within said year, but the period of permanent loan herein authorized shall not be exceeded by reason of the temporary loan.



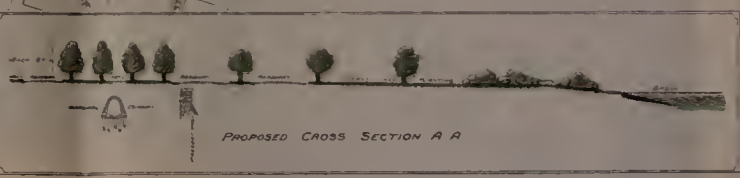
PART III

SECTION 8. The city of Cambridge may, by vote of its council approved by its mayor, widen and reconstruct Wadsworth street from Memorial drive to Kendall square, and First street from Cambridge street southerly for a distance of approximately seven hundred feet, including an extra widening of the easterly corner of First street and Cambridge street to give an easy access to Lechmere square.

SECTION 9. For the purpose of meeting the cost of the work authorized in section eight, the special assessment of one hundred fifty thousand dollars provided for in section four, and the city's assessments for the work herein authorized as one of the cities and towns of the metropolitan parks district, the city of Cambridge may, from time to time, borrow such sums as may be necessary not exceeding in the aggregate two hundred twenty-five thousand dollars, and the city of Cambridge may issue bonds or notes therefor which shall bear on their face, "City of Cambridge, Street Widening and Extension Loan, Act of 1929." Each authorized issue shall constitute a separate loan, and such loans shall be paid in not more than fifteen years from their dates. Indebtedness incurred under this act shall be in excess of the statutory limit of indebtedness, but shall, except as herein provided, be subject to the provisions of chapter forty-four of the General Laws, exclusive of the proviso inserted in section seven of said chapter by chapter three hundred thirty-eight of the acts of nineteen hundred twenty-three.

Airplane Views of Charles River Basin, by Fairchild Aerial Surveys, Inc., of New York.

Views of Alster Basin furnished through courtesy of the Hamburg Public Works Department and the German Consul General at Boston.



The Commonwealth of Massachusetts
SPECIAL COMMISSION ON THE CHARLES RIVER BASIN
CHAPTER 16, RESOLVED OF 1920
LOWER CHARLES RIVER BASIN
CAMBRIDGE ST. TO THE CHARLES RIVER DAM
PROPOSED FUTURE DEVELOPMENT
COMMISSIONERS
HENRY HARRISMAN, CHAIRMAN
HENRY PARKMAN, JR.
JAMES W. HOLLIS
ARTHUR A. SHURTLEFF
GEORGE OWEN
SCALE OF FEET
NOVEMBER, 1920



WATERTOWN

CAMBRIDGE

NEWTON

BOSTON
BRIGHTON DIST.

The Commonwealth of Massachusetts
SPECIAL COMMISSION ON THE CHARLES RIVER BASIN
CHAPTER 13, RESOLVE OF 1922
UPPER CHARLES RIVER BASIN
WATERTOWN SQ. TO CAMBRIDGE ST. BRIGHTON
PROPOSED FUTURE DEVELOPMENT

COMMISSIONERS
HENRY I. HARRIMAN, CHAIRMAN
HENRY HARRIMAN JR.
JAMES W. ROLLINS
ARTHUR A. SHURTLEFF
GEORGE OWEN

SCALE OF FEET
0 10 20 30 40 50 60 70 80 90 100

NOVEMBER, 1922

